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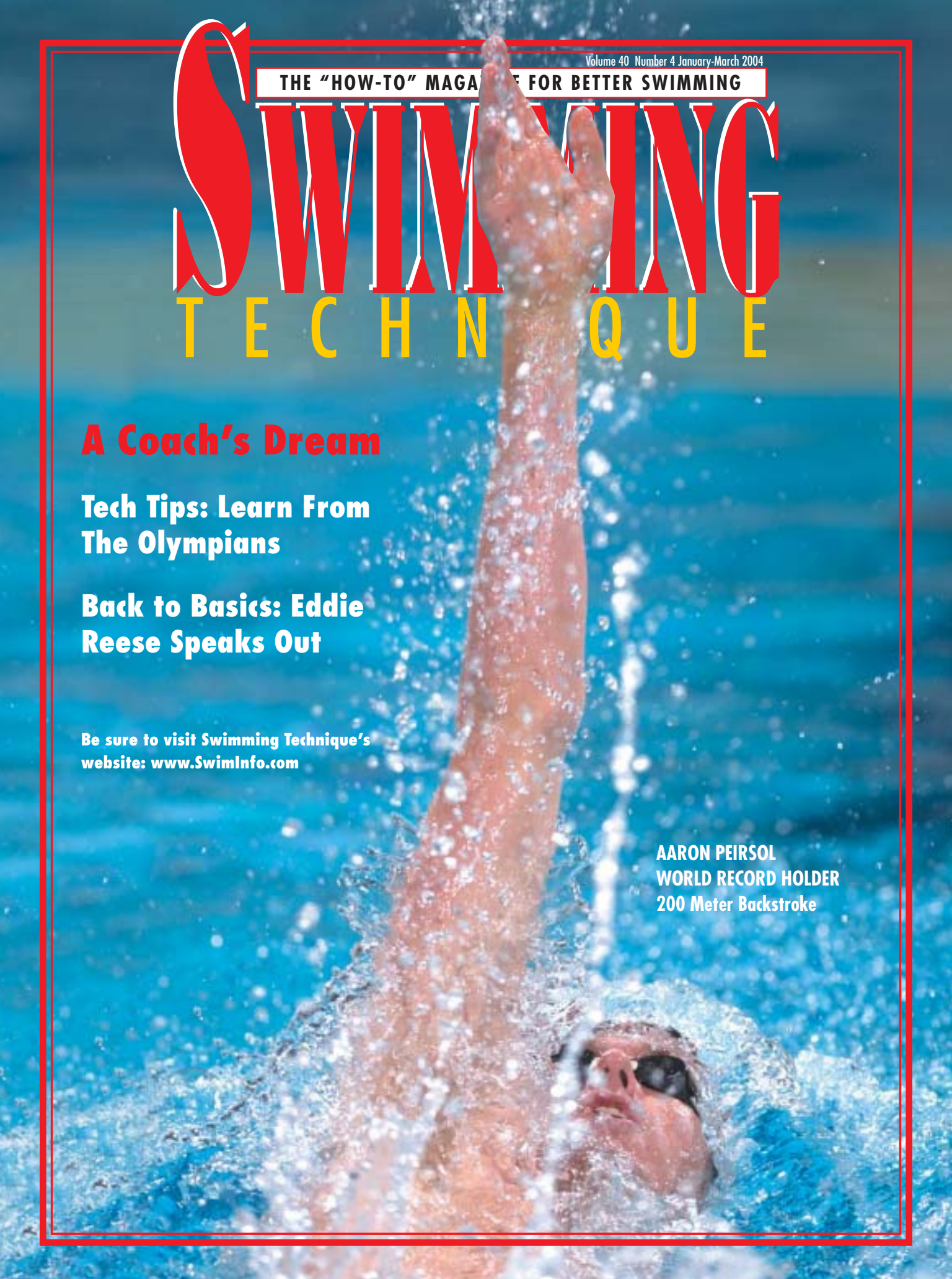
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Editor's NOTE

TECHNIQUE—A PRE-REQ FOR SWIMMING REALLY FAST: A CHAT WITH COACH EDDIE REESE

By Phillip Whitten philw@swiminfo.com

(This is the third in a series of mini-interviews with some of the world's leading coaches—a new feature replacing the traditional “Editor’s Note.” This issue’s interview is with Eddie Reese of the University of Texas, the 2004 and 1992 U.S. men’s Olympic coach. In 25 years of coaching at Texas, Reese’s teams have won nine NCAA titles. They have finished in the top three 21 times and the top five 24 times. In 2002, Coach Reese was inducted into the International Swimming Hall of Fame.)

Swimming Technique: Coach Reese, how important is technique in the success of your program?

Coach Eddie Reese: (Pauses...) I’m trying not to give you a one-word answer, like “very.”

ST: Thanks. If you did, there would be an awful lot of blank paper in this issue.

Reese: OK, let’s try it this way. I have two theories relating to technique. The first is that most swimmers—the vast majority—only reach about 90 percent of their potential. A swimmer who goes beyond 90 percent, that’s rare, but that’s the nature of the beast. Now, if you don’t have fundamentally sound strokes, you can only achieve about 90 percent of your 90 percent. That equals 81 percent.

So a lot of swimmers with great natural talent and potential are consistently beaten by swimmers with much less in the way of natural gifts—either because they are more committed and train harder, or because they have superior technique, or both.

ST: That’s very interesting. What’s your second theory?



Photo by Bill Collins

Coach Eddie Reese

Reese: My second theory is that swimming technique is like yard work. If you don’t tend to it, it looks bad as hell. And the longer you let it go, the harder it is to fix.

In my program, we work on technique every day. We go over and try to perfect all the little things—stroke, starts, turns, breakouts. But these little things add up to one monumentally big thing: the ability to swim fast...and up to one’s potential.

ST: So to make sure you keep your yard looking good, how often do you work on technique, and how much time do you devote to it?

Reese: Daily. I talk to my swimmers daily. Sometimes it’s on an individual basis, sometimes it’s on a team basis. Generally, we spend 15 minutes to half an hour on technique. It may be on a general topic like balance, or it may be

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on a specific skill, such as the underwater fly kick.

On a formal basis, in the first three weeks of the season, we spend four days on each of the five strokes—underwater kicking counts as a separate stroke—and cover everything related to that stroke.

Let's say you have a freshman: he's fast, but limited because of faulty technique. Right now he swims as fast as his strength will take him. I want to get him to be as fast as his strength can carry a sound mechanical stroke.

ST: Do you do any underwater video?

Reese: Yes, though not as much as we'd like to do. Right now, essentially it's just Chris (Kubik) and me coaching. What I'd like to do is set up a Tivo system.

ST: Coach, which type of swimmer gets more technique training in your program—the superstars, such as Ian Crocker, or the naïve freshman who isn't yet an NCAA qualifier?

Reese: Both. They get equal amounts of technique training.

ST: Speaking of Ian, what are you working on with him now?

Reese: Well, we were pleased with his butterfly this summer (world record 50.98 for 100 meters at World Championships). Right now we're trying to get Ian's freestyle right again.

ST: That's right! He first burst onto the scene as a 200 meter freestyler. What about Aaron (Peirsol)?

Reese: Aaron's one of the few swimmers with outstanding technique who can also articulate *what* he's doing and *why*. When we work on backstroke, I have him take charge of a few guys who need to improve their backstroke for their IM. In that sense, he's a lot like Rick Carey and Clay Britton, who were geniuses when it came to technique.

ST: And Brendan (Hansen)?

Reese: As you know, Phil, breaststroke is the hardest stroke. When

you're tired at the end of a race or in practice, and you try to swim fast, it just messes up your stroke. At those times, Brendan has a tendency to squeeze his elbows too far back. In breaststroke, the paradox is that to swim your fastest, you *can't* go all-out. There's no way to speed up your stroke and go faster, as there is in the other strokes.

Do you remember when (Mike) Barrowman came to the last 15 meters of a race—he'd shift into a spin drill? Then he realized he actually was going slower, so he went back to his long, efficient stroke. But that's why he never really swam the 100 (breast) in top-level competition even though he probably could have won—he was worried about maintaining the integrity of his stroke count and rhythm for his key event, the 200 breast.

ST: Who among all the swimmers you've coached is or was the most technically proficient?

Reese: Me. (*Phil Whitten laughs...*) No, really, it's me. I'm not kidding. I'm a finished product—*finished* in more ways than one.

ST: OK. Who's the *next* most technically proficient swimmer you've coached?

Reese: (*Muses...*) I'd have to say a kid named Matt Ulrickson—from around your neck of the woods (Arizona). Pound for pound, he was the best I've ever coached. Matt's about 6-feet, 150 pounds, and his fly, back and free were incredible...flawless. He went 47.3 for the fly, 47.2 for back and 43s for freestyle on our relays during mid-season.

Then there was Bill Stapleton, who was on the '88 Olympic team. He had a great fly, and his backstroke was technically perfect, but he wasn't strong enough to go faster.

Then there was Nate Dusing. He went 1:42 for 200 yards IM, so you have to figure his strokes—particularly underwater—were very good.

ST: Do you have any advice for age groupers?

Reese: Yes. Never forget it (technique). That goes for everyone—from 10-and-unders to Masters. For age groupers, typically, we'll have a group of 12-and-unders in camp, and they have pretty good strokes. Then they'll come back as 14, 15 and overs, and their technique has disappeared.

ST: Why is that?

Reese: I'm the wrong person to ask. Ask their coaches. No, technique can be boring, and trying to get kids to change can be frustrating. You can tell them the same thing for 18 months sometimes and nothing changes. Coaches are human, too, and after months of trying to pound the same thing into a swimmer's head, they can become frustrated. Then they bring in an "expert." He says the same thing and, *poof*, the kids make the change.


(*Pauses...*) Do you know the definition of an expert?

ST: (*Laughs...*) No. What's the definition of an expert?

Reese: It's someone from two minutes out of town. It's ironic. Here you have the kids' coaches—people who know these kids and care about them as individuals—and they are ignored. Not only by the swimmers but by their parents as well. Then along comes a guy like me, an "expert." I say the same thing their coaches have been saying, the changes are made and everyone thanks me. I'm a genius!

ST: Yeah, well of course that's a general phenomenon—the prophet has no honor in his own country. Any final thoughts you'd like to leave us with, coach?

Reese: Yes. Kids can use technology to improve their technique by seeing how really good swimmers swim. There are some excellent videos and DVDs that let you compare your stroke with that of an Ian Thorpe or a Tara Kirk.

Look, stroke work can be painful and, let's admit it, unexciting—until you go really, really fast. There's nothing like the feeling you get from going fast. And perfecting technique is essential to making it happen. 

A Lifetime Opportunity

With arguably the world's top two backstrokers—Aaron Peirsol and Lenny Krayzelburg—likely to be training together at Irvine Novaquatics, Coach Dave Salo is excited about what should be an exceptional summer leading up to the Olympics.

By Erik Hamilton

Dave Salo will be the first to tell you that this summer will be different from all the rest. Let's rephrase that: "It will be an exceptional summer," Salo said from his office at Soka University in Aliso Viejo, Calif.

Salo, who coaches the Irvine Novaquatics swim team, will be in high gear this summer as he prepares his swimmers for Olympic Trials in July at Long Beach. Not that Salo is a stranger to the routine. He's been placing athletes on the Olympic team since Barcelona in 1992, including medalists Amanda Beard, Jason Lezak and Aaron Peirsol. This time, however—ah, there's the rub.

It was Salo who coached backstroke and world record holder Peirsol in his high school and age group years and is one of the big reasons why he won a silver medal in the 200 meter backstroke in the 2000 Olympics in Australia. A couple of years before the 2000 Olympics, Peirsol was steadily blazing his trail and making a name for himself as a force to be reckoned with at the 2000 Games. Indeed, at the age of 15, Peirsol became the youngest American to break two minutes in the 200 meter backstroke.

While not cocky, there was no mistaking the young teenager's swagger as he rose up the ranks, becoming a bona fide challenger to the then world record holder, Lenny Krayzelburg. At that time, the University of Southern California swimmer was the indisputable kingpin of the stroke. However, a year before the Summer Games, no matter the meet in which the two were competing, Peirsol was always a pesty second.



When asked about coaching both Krayzelburg and Peirsol, Coach Dave Salo (above) beams with enthusiasm: "What more can a coach ask for?"

The Krayzelburg-Peirsol duel was an ongoing event leading up to the 2000 Olympics. In fact, it seemed like the question wasn't which country would claim the gold in the 200 backstroke, but whether it would be Krayzelburg or Peirsol who would win the event.

Not that there was any animosity between the swimmers—far from it! Instead, there was a deep respect and intense competitiveness between the two. Just for a recap, Krayzelburg swam an Olympic record of 1:56.76, while

Peirsol, who was 17 at the time, finished in 1:57.35.

Lenny Makes the Call

So it's understandable that Salo was a bit taken aback last May when he received a phone call from Krayzelburg, asking him if he could train with him.

"I think it's a combination of a lot of things as to why Lenny gave me the call," Salo said. "Some of it has to do with the fact that his injuries don't allow him to train—with the mentality that he has—in an environment such as Mark's (Schubert), where it's going to be very yardage-based. I think he recognized that it was going to be hard for him to train at that level, and my workouts were more compatible with what he needed."

Salo added, "Lenny needed something that was different. He'd been with Mark for a long time. I think he felt he was in the waning period of his career, that maybe something a little bit different would give it a little different edge. And Aaron being here was certainly a selling point."

Nonetheless, regardless of whose workout he would be using, Krayzelburg's reputation preceded him, and his workout ethic is legendary.

"I've heard stories about Lenny and Brad Bridgewater when they were both at (USC) Trojan Swim Club. And it helped Lenny a lot. And what it will do for Aaron (as a training partner) should be unbelievable.

"Talentwise, he's not like Aaron. Not that he doesn't have tremendous talent, but from his standpoint—and I've watched him do this now—it's not good enough just to be better. He

wants to be the best at what he's doing, whether it's dryland, kicking sets or sets we'll throw at him that he's not familiar with.

"You can see him analyzing how other people are successful or where he's lacking a skill. Then he tries to be better at that skill—no, not just better, but the best. And that's something I don't think I've ever seen before in an athlete."

At this point, Salo is smiling like a kid who was just handed a Never-Ending Gob Stopper from Willy Wonka. Listening to him talk, he almost gets giddy thinking about the potentials involving the two athletes.

"I think from hearing the background on Lenny and from what I've seen, he's really good in training. But with the two of them playing off of each other, it will make (training) exceptional," Salo said.

Not Afraid to Compete

"Aaron likes to compete in practice. He's not afraid to compete in practice. Lenny can do it without anybody there, so the potential of the two of them working together could be very exciting."

So, picture this: two thoroughbreds in the water, probably wanting to race each and every set. Competition is flowing throughout their bodies, and there's literally electricity flowing in the pool. So, what as a coach are you going to do to channel this energy?

"Well, it sort of lends itself to my program where volume isn't essential. In an environment where Lenny is so willing to push the envelope and train hard, we can rein in that overtraining a little bit. And in the contents of our program, I don't think Lenny will be overtraining," Salo said.

As for Peirsol, he's used to the Salo method, which helped the Irvine resident develop into one of the sport's greatest. Nevertheless, what about these two studs in the same water? It's like having Michael Vick and Peyton Manning fighting for the QB spot.

"Yeah, well, you have to understand that there's a real sense of com-



Photo by Bill Collins

Last year, Peirsol, 20, won gold at the FINA World Championships in Barcelona in the 100 and 200 meter back and the 400 medley relay, which broke the world record. When he was 15, he became the youngest American to break two minutes in the 200 meter backstroke.

petitiveness between Lenny and Aaron," Salo said. "Lenny is still having shoulder problems, so we have to nurture that and take care of it. But unlike so many other athletes I've had who've had shoulder problems, Lenny doesn't let that stop him from doing the work. I'm talking about giving 100 percent in every workout. He'll kick, but he'll kick at a level I've never seen before."

Salo points to a hockey player to summarize Lenny's approach to workouts, let alone races. "Like a hockey player, if he gets knocked up or cut on the face, he'll get stitched up and be right back on the ice."

Said Salo: "He gets frustrated when he can't do what he's asked to do swimmingwise, because of his shoulder. I have to pull him aside and tell him, 'Lenny, if you do 85 percent, you're better than most people, because nobody is training at that level.' Nobody is training at the level at which he trains."

The bottom line, said Salo, is that Krayzelburg wants to be better.

Past Accomplishments

In 2003, Krayzelburg's accomplishments included second in the 100 and 200 meter backstroke at the Mutual of Omaha Duel in the Pool. He won his 11th U.S. national title, taking the 100 meter back at spring nationals. He was also second in the 200 meter back.

"He doesn't care about winning the gold medal, and I believe him when he says this. He wants to be better, and if that means coming in second, but still bettering his best time, then he'll be satisfied," Salo said.

As for Peirsol, he's currently a sophomore at the University of Texas, where he trains with the legendary Eddie Reese, who is also the 2004 men's Olympic coach. Last year, Peirsol won gold at the FINA World Championships in Barcelona in the 100 and 200 meter back (both in Championship record time) and the 400 medley relay, which broke the world record. He also won silver on the American record-setting 800 freestyle

Sample Workout for Lenny and Aaron

By Dave Salo

Lenny is currently restricted to non-swimming as we continue his rehabilitation of his twice surgery impacted shoulder. He is doing a great job, primarily kicking.

Warm-up: 400 + 4 x 100 + 4 x 50

12 x 50 @ Heart Rate 23 (10-sec. heart count is 23 beats or lower; initial heart rate should be above 28)

With fins on - Head up "AB KICK" 25 - flip - four dolphin kicks off the wall into V-sit kick

(AB KICK refers to relatively flat body position on the surface of the water, where the propulsion is generated more from the abs rather than the legs)

(V-sit position: sculling head first with shoulders and straight legs out of the water, forming a V position)

Kick (with tennis shoes)

300 (last 50 full speed @ 30-sec. rest)

4 x 75 (descend with the final 25 always fast @ 25-sec. rest)

200 (last 50 full speed @ 20-sec. rest)

4 x 75 (descend with the final 50 always fast @ 15-sec. rest)

100 (last 50 full speed @ 10-sec. rest)

4 x 75 (fast @ 5-sec. rest)

1 minute rest

4 x 75 (fast @ 5-sec. rest; NO SHOES)

100 (last 25 full speed kick)

4 x 75 (fast @ 15-sec. rest)

200 (last 75 full speed kick @ 20-sec. rest)

4 x 75 (fast @ 25-sec. rest)

300 (last 125 fast)

3 x 50 stretch @ 1:00

Little paddles or no paddles

6 x (100 + 4 x 25) @ 1:20/1:25/1:30/1:35/1:40/1:45 (100s);
:20/:25/:30/:35 (25s)

(100s: overkick with very easy "light" arms without turnover rate; descend 1-3; 4-6)

(25s: alternate fast-fast-easy-fast; work rate and power from the kick and transitional speed from underwater to surface)

3 x 50 stretch @ 1:00

CORDS: attached to "tight" stretch cord (maximum resistance—have to work pretty hard to make 25 yard distance)

7 x 150 @ 1:00 rest between rounds

(Alternate odd 25s: with resistance dolphin kick, flutter kick, dolphin kick)

(Even 25s: fast flutter kick with assistance)

(At the end of each odd 25, kick against the wall with FLAT HANDS for 10 seconds)

3 x 50 stretch @ 1:00

2 x (10 x 50) @ choice interval (swimmer decides how many and the interval—for maximum speed)



Photo by George Olsen

The Krayzelburg-Peirsol duel was an ongoing event. In fact, it seemed like the question wasn't which country would claim the gold in the 200 backstroke, but whether it would be Krayzelburg (foreground) or Peirsol (fist in air) who would win the event.

relay and was eighth in the 50 back.

He won the 200 meter back and was third in the 100, and he led off the 400 medley relay that broke the U.S. Open record at the Mutual of Omaha Duel in

the Pool. He also broke the American record in the 200 yard backstroke, becoming the first person to swim it under 1:40, winning his first NCAA title. Peirsol was also second in the 100

yard back at the NCAA Championships.

Will he come back and train with his mentor and coach?

"For the first time ever, he (Peirsol)

A Lifetime Opportunity

called me and left a message about his workout. He's never done that. So I don't know what he was trying to tell me. I don't know, but he might stay in Texas and train. My sense is that he will come home, rather than being quiet about it. But he's real excited about Lenny being out here. And that could be the deciding factor as to whether he comes back and trains with me."

If the two do train together—and they most likely will—one thing is for certain: for a coach, an experience like this generally comes around once in a lifetime. If ever!

"It's something that is really satisfying for me," Salo said. "To have the opportunity to coach these two great athletes and to have them want to train with me—what more can a coach ask for?"

Erik Hamilton, who covered swimming for the Los Angeles Times, is a free-lance writer living in Irvine, Calif.



Photo by Peter H. Bick

Says Salo about Lenny: "You can see him analyzing how other people are successful or where he's lacking a skill. Then he tries to be better at that skill—no, not just better, but the best. And that's something I don't think I've ever seen before in an athlete."

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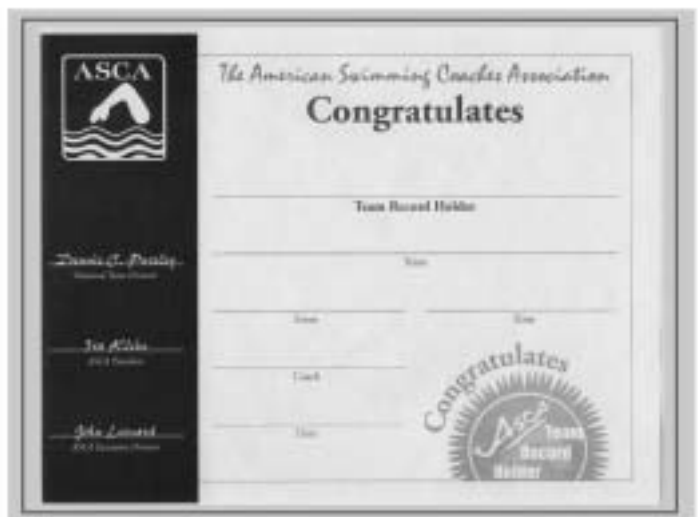
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Road to Success

Proper preparation, training and taper—along with an abundance of talent—have enabled Blue Tide Aquatics of Houston, Texas to enjoy a great deal of success over the years.

By Steve Wilson

The metropolitan Houston area has had a strong swimming tradition for many years. The area northeast of Houston, where Blue Tide Aquatics (BTA) was formed in 1980, has enjoyed being a part of that tradition.

With the good fortune of having a strong, supportive swimming community and interlocking cooperation among the YMCA and other fitness clubs' lesson programs, summer league and high schools, Blue Tide has built on its original foundation. The team currently consists of approximately 325 competitive swimmers, 100 pre-competitive and 65 Masters swimmers.

Blue Tide's vision is to be consistently strong and successful in all age groups from 10-and-under to senior.

The focus in this article will be on the preparation, training and taper of BTA's top 14-and-under swimmers.

Yes, we do "taper and shave" our younger swimmers. The majority of these swimmers have continued to develop and improve both their times and their love of the sport. We currently have approximately 15 swimmers competing collegiately.

Season Plan

Our planning for the short course season typically revolves around four six-week training cycles.

For example, this year's plan includes an "A" meet in early November, our Gulf LSC Championships in mid-December, a prelim/final "A" meet in late January and the Texas Age Group Swimming Championships (TAGS) in early March.

During the first training cycle, perfect stroke mechanics are the emphasis

of training based on each individual's ability for retention and correction. This is accomplished with verbal and visual aids with a priority placed on each swimmer understanding the purpose of a particular drill or exercise.

After this cycle, our yardage volume gradually increases while the swimmers and coaches maintain responsibility for proper stroke mechanics.

During the peak workload period, our 13-14 swimmers are offered seven workout sessions per week, totaling approximately 40,000 yards. The 11-12 swimmers swim six workout sessions weekly, adding up to approximately 28,000 yards. Our more advanced 10-year-olds (and a few 9-year-olds) attend four practices a week and swim nearly 15,000 yards.

Throughout these practices, leg work

makes up nearly 30 percent of these totals with very little isolated pulling. Dryland and stretching exercises are encouraged on a voluntary basis and administered by our coaching staff in addition to our pool time.

Balance, coordination, timing and strength are developed through a regimen of calisthenics, plyometrics, light medicine balls and stretch cords. Each of these is added incrementally by physical (and mental) maturation throughout these particular age groups. This dryland exercising continues during each of the four six-week cycles, stopping two to three weeks before the end of the second and fourth cycle.

The athletes are prepared for the competitions at the conclusion of the first and third cycles with a minimal amount of physical rest and more men-

Blue Tide Aquatics won both the men's and combined team titles at the 2003 National Club Swimming Association Long Course Junior Championships in August.





The NAG record turned in by (from left) Scott Sorge, Paul Kornfeld, Eric Mai and Kevin Leckey in 1998 for the 10-and-under boys 200 yard medley relay (2:02.48) still stands.

tal preparation. These mini-preparations lead into our mid-season and season-ending championship tapers.

Taper Time

Just saying the words, “taper time,” to the swimmers brings about an aura of excitement. This time can bring a magical glow to the eyes of swimmers, parents and coaches alike, but as we all know, taper is not a magical thing.

Simply put, the harder each individual swimmer works throughout the season, the greater the odds are in their favor for the big payoff during their championship meet swims.

Certain elements have to fall into place for the taper to be successful. With this in mind, there are some specific aspects that will increase the chances of each swimmer’s taper being successful.

Physical Characteristics

Resting your swimmers is one of the main ingredients to success in tapering. We feel that our 14-and-under swimmers can rest an extreme amount since most of their races are based on speed and middle distance ability.

This may have an adverse affect for longer races such as the 500 free and above. However, since the 500 free for the 10-and-under and 11-12 age groups as well as the 1000 free for the 13-14 year-olds are the first races at TAGS, the effect is minimal.

Swimmers are encouraged during the taper process to rest as much as possible outside the pool. They are advised to stay indoors as much as possible and not to participate in energy-consuming activities. This emphasizes accumulating energy away from the pool in addition to keeping the mental focus sharp.

They are also asked to get ahead with schoolwork and any other responsibilities that they may have so that nothing will be looming over their heads when it comes time to perform.

Sleeping patterns that are going to be similar to those at the big meet are encouraged. We also try to have practices at the time of day when the swimmer will compete. A few morning practices leading up to the championship meet acclimate the athlete to the routine of waking up early and swimming fast.

In the workouts, attention to detail

and speed are the main areas of focus. Some of these details include:

- Technique work
- Building to full speed and working perfect finishes
- Pace work
- Timed swim just prior to the meet
- Full speed starts, turns and finishes
- Race situations—broken 50s, 100s and 200s
- Age group races—using their peers to race and get speed
- Maintenance of leg conditioning
- A small amount of light resistance work

We, as coaches, encourage our high-level 9-year-olds and above to shave. Our staff has seen no evidence that shaving hampers their shaved-and-tapered performance further down the road. Quite the opposite has been true. These athletes are better prepared for the championship routine and have continued to have great drops in time from their in-season swims.

The swimmers are also to be in “fast” suits for their championship meet. These suits are different from the “team” suit they wear during in-season meets. This season, they are to wear the “fast” suit at the end of their second, third and fourth cycles.

Psychology

Possibly the most important factor in the tapering process is the psychological aspect of the swimmers’ preparation. We strive diligently to get them to believe in themselves and the team.

During our ten-day taper, we read to our swimmers each day about preparation and success. Our swimmers lie on their towels with their eyes closed in a relaxing environment. They hear about successes in the distant past (championships, finalists, records) as well as our most recent ones.

The swimmers are also taught how to handle disappointment (i.e., not swimming up to their standard, disqualifications, not finaling) and to plan on some things not going as planned. They are told of their teammates’ suc-

Preparing 14-and-under swimmers for championship meets

cesses and disappointments in the past and how they've dealt with both in a positive, mature manner.

We discuss the "psyche sheet" and how it is just a listing of names and numbers on a piece of paper and how nothing from the past matters now. They are reminded of BTA swimmers who have made finals at the state championships while swimming in the first heat.

We facilitate a bit of pre-meet revelry with a festive dinner/pep rally, but the focus needs to remain on the swimming, keeping in mind that a championship meet may be exciting, but it's not a party.

The state championship is a long, emotional meet; therefore, it is extremely important to keep the focus of the swimmer, parent and coach on an even keel. We try not to let the highs get too high or the lows too low. In the grand scheme of things, it is important to remember that it is just

another swim meet, and there will be many more opportunities in the future.

Eye-Popping Results

The Blue Tide coaching staff has had the good fortune to work with many incredibly talented athletes. This abundance of talent has produced numerous accolades throughout the years.

Our team currently holds 23 Texas state records and many Gulf LSC records. In the past seven years, our athletes have held two national age group records. The NAG record turned in by Eric Mai, Paul Kornfeld, Scott Sorge and Kevin Leckey in 1998 for the 10-and-under boys 200 yard medley relay still stands. Madeleine Stanton's 11-12 girls 200 yard back record was just bettered this past season. We've had numerous No. 1-ranked swimmers and relays in addition to many other athletes making USA Swimming's National Top 16 Times list.

Some of Blue Tide's most recent successes have been bolstered by our senior age groupers who have grown up through the training philosophy of our program. We won our first state championship during the 2002 short course season, then repeated that finish during the 2002 long course season.

We also captured our first Gulf Senior LSC Championship in December of 2002. In addition, our swimmers representing Kingwood High School have scored the most combined points for men and women at the Texas State High School Championships in both 2002 and 2003. Finally, our senior age group swimmers won both the men's and combined team titles at the 2003 National Club Swimming Association Long Course Junior Championships in August. 

Steve Wilson is the head swimming coach of Blue Tide Aquatics in Houston, Texas.

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Taper Workouts

13-14 year-olds

By Steve Wilson, Head Coach

3 Days Out (from Championship Meet)

Swim 5 x 100 on cruise interval (CI) + :10
Kick 1 x 300 alternating 25 hard 25 relaxed choice
Kick 16 x 25 hard: first 10 choice, last 6 flutter
Swim 1 x 50 relaxed choice
Swim 1 x 300 breathe every 5 free
Swim 4 x 100 on CI hard
1 x 50 relaxed free
3 x 100 on 4:00 with :10 at each 25
Swim 6 x 50 on 1:10 breathe 2 down/2 back
Swim 8 x 25 on 1:00 25 under/25 choice sprint
Swim 6 x 50 on 1:00 drill of choice

2 Days Out

Swim 5 x 100 on CI + :05
Kick 1 x 300 choice alternate relaxed/very hard
Swim 1 x 200 breathe every 5
Swim 4 x 50 on 1:30 build choice
Kick 3 x 100 on 2:30 odds hard flutter, evens hard choice
Kick 4 x 25 on :45 choice hard
Swim 2 x 200 on 5:30 choice (Rest :15 after each 50; 85% pace)
8 x 25 fly hypoxic hard
4 x 25 for time on coach
300 ascend by 100

1 Day Out

Swim 4 x 100 on CI + :10
Kick 1 x 200 IM alternate 25 relaxed/25 very hard
Kick 4 x 100 on 2:30 1+4 hard flutter, 2+3 hard choice
Swim 1 x 50 relaxed choice
Swim 6 x 50 on 1:10 breathe 2 down/2 back
Swim 3 x 125 on 3:00 (Rest :10 at each 25 1 cruise 2+3 all out)
Swim 8 x 25 on 1:00 odds no breath choice, evens sprint choice
Swim 1 x 300 relaxed choice

11-12 year-olds

By John Dissinger, Head Age Group Coach

3 Days Out

200 swim/200 drill
Swim 12 x 25 drill on :35
Swim 4 x 25 perfect stroke on coach
Kick 10 x 25 half fast/half relaxed on :40
Swim 10 x 25 build on :35 working full-speed finishes
Swim 10 x 25 half fast/half relaxed; odds work turns, evens work starts
Swim 3 x 100 broken :10 at each 25 choice on 3:00
Turn work
6 x middle pool 25 working turns
Swim 8 x 25 stroke drill warm-down

2 Days Out

200 swim/100 kick/100 drill
Kick 8 x 25 fast on :40
12 x 25 drill on :35
Swim 8 x 25 perfect stroke on :35
Swim 8 x 25 build on :35 working full-speed finishes
Swim 8 x 25 half fast/half relaxed; odds work turns, evens work finishes
Starts
Turns
Swim 4 x 50 fast on 2:00 from a dive
8 x 25 stroke drill warm-down

1 Day Out

300 swim
200 kick
200 drill
4 x 50 drill/swim on 1:05
6 x 25 on :35 working full-speed finishes
6 x 25 half fast/half relaxed; odds working turns, evens working starts
Turns
200 relaxed swim, fast flags to flags working turns
4 x 25s timed on coach
Selected swimmers 2 x 50 pace
200 warm-down

9-10 year-olds

By Rachel Garry, Assistant Coach

3 Days Out

200 swim/200 kick
4 x 50 Blue Tide Tumblers—underwater flags to wall to flags
Kick 10 x 25 with fins, 6 free 4 back
Swim with fins 10 x 25; odds fast, evens relaxed, all choice
Swim 4 x 100 IM
1—drill; 2—relaxed; 3—medium; 4—fast from a dive
Swim 4 x 50 free working on turns fast from flags to wall to flags

2 Days Out

300 swim warm-up
8 x 25 drill 2 of each stroke
8 x 25 perfect stroke
Kick 3 x 100 choice
Swim 12 x 50 three sets of four
1—25 fast/25 relaxed; 2—25 relaxed/25 fast; 3—50 fast; 4—50 relaxed
Set one—free; Set two—best stroke; Set three—choice
100 relaxed warm-down

1 Day Out

Warm-up 200 swim/200 IM drill
Kick 4 x 75 IM order
Swim 3 x 50 build choice
Swim 2 x 50 free from a dive, 25 all out/25 catch-up
Swim 2 x 50 best stroke from a dive, 25 all out/25 drill
Swim 4 x 25 underwater
Swim 100 of best stroke. Medium pace with visualize race pace
Turns
200 Easy

Establishing an Aerobic Base

The first step for any successful swim team begins with the building of an aerobic base. One of the best builders is Eddie Reese, head men's coach at the University of Texas.

By Michael J. Stott

Coach Eddie Reese knows how to build a good aerobic base for his swimmers at the University of Texas. The statistics, alone, would seem to confirm that.

Reese—also the coach of the 2004 U.S. men's Olympic team—has led his Longhorns to nine NCAA titles (including eight of the last 16) and every conference title (Big 12 and SWC) since 1980. He's coached 31 NCAA champions, 25 national champion relay teams, 120 All-Americans and 18 Olympians who have won 19 gold medals in four Olympics. He also coaches current world record holders Ian Crocker, Aaron Peirsol and Brendan Hansen.

"My basic philosophy is that the work just needs to get harder every year," he says. Reese claims there are four things that make you better. You can:

- Get bigger and stronger
- Develop better technique
- Swim harder
- Offer harder practices

"Physiologically, the way you increase aerobic ability is to get the heart to contract and expand as completely as possible. That takes doing different amounts of work at different intensities."

Reese utilizes 100s and 200s with ample rest, which allows swimmers to go fast enough for maximum heart contraction and expansion. For example,

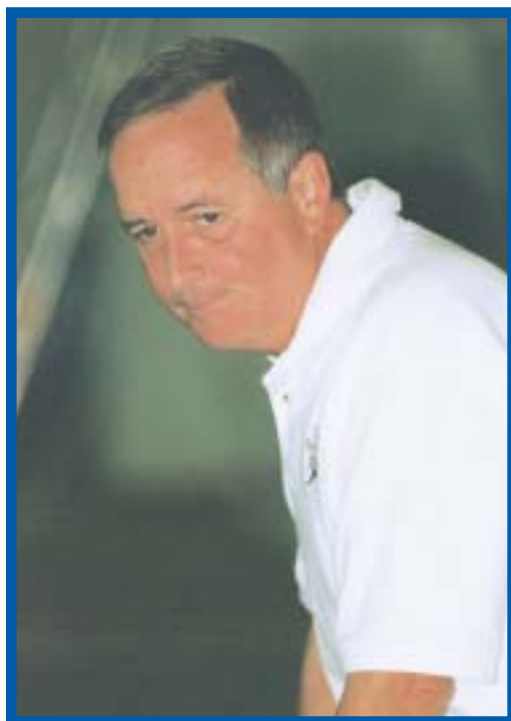


Photo by Bill Collins

Eddie Reese, head men's swimming coach at the University of Texas, was also named the coach of the 2004 U.S. men's Olympic team.

assume sets of 100s on 1:15 where swimmers are asked to hold :55. Freshmen may do 8-12 two times a week, whereas some of his superstars grind out 20 100s three times per week.

The 100s notwithstanding, Reese is a proponent of longer swims. While many coaches have gone to a race pace style of training, Reese has not.

Neuromuscular stimulus is critical and swimmers get a load of it through tube and pulling systems, weight room overloads and overdistance and over-speed regimens.

"I believe in keeping 30-minute swims in the program," he says, "because if you have people of similar ability, the ones who've been in the longer programs always seem to finish better whatever the distance."

It Starts with a Plan

All the logic starts with a season plan, a mix-and-match amalgamation that Reese admits doesn't work all the time, although the results seem to belie such self-effacement. At Texas after two to three weeks off following summer nationals, Reese's charges work "gently" into the season.

The eye on the prize is clearly late March (NCAAs) and the championship meets thereafter.

"With the season ending in late March, there's not much time from April to U.S. Nationals to make a lot of physiological changes, so we try to do it from the middle of September to the middle of January," he says.

Weeks 1 and 2 consist of daily workouts that include 3,000 swim/kick, 1,000 technique. Week 3 has daily doses of 4,000 aerobic practice/1,000 technique.

"If we work up gradually, the body adjusts better. It may take us longer than some other teams, but when we get there, we seem to stay up at peak performance four to six weeks longer than other teams."

For instance, from early October through mid-November, Texas middle

Establishing an Aerobic Base



Brendan Hansen

Photo by George Olsen

on 6:00. In 2003, the regimen was augmented by the following weekly progression beginning in mid-October:

- Relay meet (fast swimming)
- Meet with the University of Southern California
- Six to eight 100s fast
- Six to eight 200s fast

- Four to eight 100s fast
- Two-day meet with University of Michigan (LCM on Friday, SCY on Saturday)

In mid-November, the middle distance group was alternating days of doing 7,000 yards with days of doing 11,000 yards. Distance swimmers were

distance swimmers embark on three two-week cycles that produce 4,000 yards in 50 minutes in the following manner:

400 on 5:00 (100 free, 100 back, 100 free, 100 back EZ)

4 x (100 free on 1:05, 100 back on 1:10, 100 breast or fly stroke drill on 1:20)

300 on 3:45

3 x (100 free on 1:05, 100 back on 1:10, 100 breast or fly stroke drill on 1:20)

200 on 2:30

100 on 1:15

In the fourth week, middle distance swimmers do a 2,000 free; in the fifth week, a 2,000 IM mix with some moderate recovery; in the sixth, a 3,000 swim; and in the seventh, a 3,000 IM mix. Distance swimmers do greater yardages.

“As we move toward the end of November, we start doing more fast stuff in practice,” he says. Examples for those once-a-week sets are 20 50s on 1:15, eight 200s on 5:00 or broken swims, 100s on 6:00 (or 5:00) and 200s

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Establishing an Aerobic Base

doing upwards of 10,000 to 12,000 in a session, while sprinters were logging closer to 5,500.

Coaching by Instinct

Programmed rest is not part of the Reese equation. Again, he's a man who coaches by feel, taking the pulse of his team members through observation.

"If they look like they are getting tired or wearing out mentally—whether it's from school or whatever—I'll take a break and do relays, or sit down and talk. I try to watch my swimmers and go from there. We do recovery days, but we just don't call them that. It depends on where we are in the season and who is coming up," he says.

Unlike some teams, Reese's do not



Ian Crocker

Photo courtesy of University of Texas Sports Media

Texas Workouts

Really Early Workouts (before Sept. 15)

400 free on 5:00

300 free/100 kick on 5:20

200 free/200 kick on 5:40

100 free/300 kick on 6:00

12 x 100 free (breathe every 5) on 1:20 or

10 x 100 (75 free/25 stroke) on 1:25 (during the rest period, do 8 sec. vertical kick)

1,000 stroke work—mostly 25s (takes about 30 minutes)

Early Workout (early October)

800 (100 free/100 back) on 11:00

600 (100 free/100 back) on 8:15

400 (100 free/100 back) on 5:30

200 (100 free/100 back) on 2:45

400 (100 free/100 broken fly drill) on 5:30

600 (100 free/100 broken fly drill) on 8:15

Freestylers:

3 x (200 free on 2:20, 4 x 50 stroke on :50, 2 x 50 drill on :60)

Non-freestylers:

3 x (200 stroke*, 4 x 50 free on :40, 2 x 50 stroke drill on :60)

* Stroke = back on 2:30, fly/free on 2:30, breast on 2:45

Goals for Early Aerobic Training

4th week of training:

1 x 20-30 min. swim per week

1 x 20-30 min. kick per week

5th and 6th week of training:

1 x 30-40 min. swim

1 x 20-30 min. kick

7th and 8th week of training:

1 x 40-50 min swim

1 x 30 min. kick

(Once every two weeks, the long swim will be timed)

Examples of non-free or stroke straight swim:

1 fly/1 back/1 breast/1 free; 1 fly/1 back/1 breast/2 free; 1 fly/1 back/2breast/2 free continued for a distance (up to 3 or 4 of everything or timed)

50 free, 50 weak IM stroke, 50 free, 50 weak IM stroke for 30 minutes or 12 rounds

5 x (100 stroke/100 kick, 75 stroke/25 kick, 50 stroke/50 kick, 25 stroke/25 kick)—5 x or just go down and up, never repeating for a period of time

20 x (50 swim/50 kick)

(Team record for this 100 is 1:08.4)

Workout (Nov. 12, 2003)

400 free on 5:00

500 free on 6:00

2 x 400 IM on 6:00 (regular order on the 1st; back or breast on the second, i.e. fly/back, fly/back, back/back, back/back, breast/back, breast/back, free/back, free/back)

300 kick on 5:00

8 x 50 swim on 1:00

Easy 100 on 2:00

400 free on 5:00

100 free on 1:05

4x { 100 back on 1:10

100 breast or fly drill on 1:20

Establishing an Aerobic Base

shave to make NCAA cuts, and he admits that when the guys are lifting and swimming hard, they are “not very good. Most of our losses occur in November and the first half of January because we are just training, but we can live with that. We work for the end of the year.”

With a touch of humility, Reese acknowledges, “I’m not sure any of this is right or it’s working. That’s the scary part. Each year, I try to find a way to make the program harder. You can put out any formula you want, and if you don’t have the people who are doing the work, then it doesn’t matter. I’ve got a very hardworking group.”

Michael J. Stott is a contributing editor to Swimming Technique, Swimming World and SWIM magazines.



Aaron Peirsol

Photo by George Olsen

300 free on 3:45
3x {above set

200 free on 2:30
2x {above set

100 free on 1:15
1x {above set

2x {
200 kick on 3:00
4 x 25 fly kick on :25
4 x 25 fly swim on :25
4 x 25 back kick (arms locked over head/:25)
4 x 25 back swim on :25
4 x 25 breast kick on :25
4 x 25 breast swim on :25

Swim-down

5,000
82 minutes

Middle of the Year (late November)

12 x 100 (75 free/25 stroke) on 1:30 (10 secs. vertical kick during rest)
12 x 100 IM (reverse order) on 1:30

4 x 100 kick on 1:40
2 x 50 drill on :50
3 x 100 kick on 1:35
2 x 50 drill on :50
2 x 100 kick
2 x 50 drill on :50
1 x 100 kick on 1:25
2 x 50 drill on :50

20 x 100 free on 1:00
If you miss one, swim an easy 50 and get back on the interval
15 min. kick - speed play

200 swim-down

Jan. 15 (moving toward more pace work)

800 free/back on 11 min.
4 x 100 kick on 1:35
Easy 100 kick on 1:50
4 x 100 kick on 1:30
Easy 100 kick on 1:50
4 x 100 kick on 1:25
Easy 100 kick on 1:50
4 x 50 stroke on :60
6 x 50 swim at 95% effort on 1:15
4 x 50 stroke drill on :60

4 x 50 swim at 95% effort on :60
4 x 50 stroke drill on :60
4 x 50 swim at 95% effort on :50
4 x 50 stroke drill on :60
2 x 50 swim at 95% effort on :40
4 x 50 stroke drill on :60
2 x 50 swim at 95% effort on :35
4 x 50 stroke drill on :60
2 x 50 swim at 95% effort on :30
4 x 50 stroke drill on :60
800 pull at moderate pace
400 kick at moderate pace
Turns

The Crossover or Modified Roll Turn With Pullout

Michael Phelps demonstrates the difficult crossover or modified roll turn from backstroke, the following breaststroke pullout and the breakout.

By Kevin Milak

Demonstrated by Michael Phelps Photos by Kevin Milak

Before the rule change that allowed a rollover turn on backstroke, the modified roll turn was the quickest way to turn from backstroke to breaststroke in the IM. However, this turn has not faded into technique history as “what we used to do before they changed the rule.” Many elite athletes continue to use this turn during IM transitions from back to breast.

The rule regarding backstroke to breaststroke transition

turns states:

“The swimmer must touch the wall while on the back. Once a legal touch has been made, the swimmer may turn in any manner, but the shoulders must be at or past the vertical toward the breast when the swimmer leaves the wall, and the prescribed breaststroke form must be attained prior to the first arm stroke.”

In this article, we will be taking an underwater view of this difficult turn, the following breaststroke pullout and the



breakout. Not only will we have a fish-eye view of the turn, but it will be demonstrated by the best IM swimmer in the world, Michael Phelps.

Approaching The Wall

Swim into the wall the same way you would approach the wall for a backstroke flip turn. Your distance from the wall when you initiate the turn should be slightly less than it is for your normal backstroke turn. This may require you to lengthen your last several stroke cycles slightly in order to get yourself closer to the wall (**Photo #1**).

On the last arm stroke, instead of rolling over onto the chest, your body will roll halfway onto the chest so that you are perpendicular to the bottom of the pool, with your chest facing the lane line. Your last arm stroke (Michael's right arm) will reach behind your head (**Photo #2**).

Touch And Roll

Drive into the wall, bringing your hand and forearm behind your head. During this final moment before you make contact with the wall, you must be careful not to let your shoulders pass vertical (which would be illegal). Plant your hand fairly deep on the wall, just behind your opposite shoulder (Michael's left shoulder). Your fingers will be pointed down and behind you (if the wall were a clock, Michael's fingers would be pointed at 7 o'clock), with the palm of your hand flat on the wall (**Photo #3**).

Once your hand is on the wall, continue to roll onto your stomach and somersault. Bring your other arm (the one that did not touch the wall; Michael's left) down toward the bottom of the pool, which will help you to bring your body into alignment and stop you from flipping too far (**Photo #4**).

Roll onto your side—not all the way onto your stomach—as your feet come in contact with the wall. Your feet should be relatively high on the wall, fairly close to the surface, and your toes should be pointed parallel to the surface. Bring your arm that came in contact with the wall overhead to meet your other arm so that you can get ready to push and streamline (**Photo #5**).

Push And Stretch

Push off on your side with your eyes looking toward the side of the pool, tightening your streamline as your legs straighten. Streamline with your elbows close together behind your head and your torso flexed and straight (**Photo #6**).

As you get set up for your pullout, rotate onto your stomach by turning in a corkscrew motion as you push off the wall. Your legs should be squeezed together with your toes pointed. Make sure to exhale as you streamline, so that you do not float to the surface before you are ready to make your breakout. Be sure not to hold your streamline so long that your body begins to lose momentum and slow down (**Photos #7 and Streamline**).



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Backstroke to Breaststroke:



The Pulling Phase

The arm motion of the pullout can be described as an exaggerated butterfly stroke: the pull and press of the arm strokes are very similar motions. Begin to sweep your hands out with the palms pitched slightly outward and upward so that the hands are outside the shoulders. Once your hands are outside the shoulders, the palms of the hands will begin to face backward. This motion is primarily a stretch to get your hands into the correct position for the next catch of the pull (**Photos #8 and #9**).

Flex and bend your elbows nearly 90 degrees until your hands nearly come together under your chest. Then press the water under your body from the point at which your hands pass under your chest until they pass by your navel, accelerating your hands as they go through the pull. Throughout most of this phase, your hands will be close together, with your thumbs and index fingers forming a diamond pattern (**Photo #10**).

The final phase of the pull is the upsweep, where your hands push out from under your body to push slightly upward. Your hands will stop against your thighs, with your fingers pointed down your leg. This final part of the pull should be the fastest your hands will move during the pullout. During the momentary glide, shrug your shoulders and squeeze your arms close to your sides (**Photo #11**).



Backstroke to Breaststroke:



Kick to Surface and Arm Recovery

The closer you can recover your hands and forearms to the body, the less drag you will encounter. Flex your elbows enough that your arms move forward with your hands almost sliding across your body. As your arms are passing under your stomach, your feet should begin to recover by bending your knees slightly. Your feet should recover very gently so as not to cause too much drag (Photos #12 and #13).

Use the propulsive phase of the kick to finish the recovery of the arms. Your body should be close to the surface, and as soon as your arms are back up into a streamline, they should begin to press outward to begin the first breaststroke pull. Your eyes should always be looking down throughout the entire pullout, from streamline to breakout. You will only begin to raise your eyes during the first breath of the first stroke cycle of breaststroke (Photos #14 and Breakout).



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Unfair Advantage?

University of Arizona head swimming coach, Frank Busch, speaks out on...the bodysuit!

By Kari Lydersen

When bodysuits first made “a big splash” several years ago, they created quite a bit of controversy and debate:

- How effective are they?
- Will they revolutionize the sport?
- Do bodysuits really make that much difference?
- Are they legal?
- Should they be allowed?

Around the time of the 2000 Olympic Trials in August, the suits created national news beyond the swimming world when USA Swimming first voted to ban the suits from the Trials, then later reversed its decision.

Today, bodysuits are the norm, incorporated into swimming culture like paper suits before them. But some elite swimmers don't wear them. And there remains much debate as to their merit, which are the best types to wear and when they should be used during the season.

Sore Subject

University of Arizona head swimming coach, Frank Busch, says the suits are something of a “sore subject” with him because he feels certain they give some swimmers an advantage over others, and they have also helped inordinately to lower times.

“If it's making your body more buoyant, all the records are going down because we've increased the technology rather than improved our coaching,” he said.

Busch notes that the suits definitely help some body types more than others, since unlike tiny paper suits, they not only provide buoyancy and slickness, but actually shape the entire body.

“If you're not particularly tight, it just seems to me it lines you up a little bit better. There's definitely some advantage to it that way,” he said.

In other words, swimmers who are a little heavier or less toned can reduce the drag of their extra body weight with the sleek, slimming suits.

The bodysuits' benefits also vary by stroke and event. Busch noted that most breaststrokes want their legs free, so they wear the short-legged suits or don't wear them at all.



Coach Frank Busch feels certain that bodysuits give some swimmers an advantage over others, and that they have also helped inordinately to lower times.

Several of the women breaststrokes on the U of A team don't wear bodysuits, including senior Jessica Wagner (who placed sixth in the 100 yard breast at last year's women's NCAAs) as well as former Arizona swimmer and world record holder Amanda Beard.

Many swimmers are also emphatic about having their arms free. At the European Championships in 2000, British

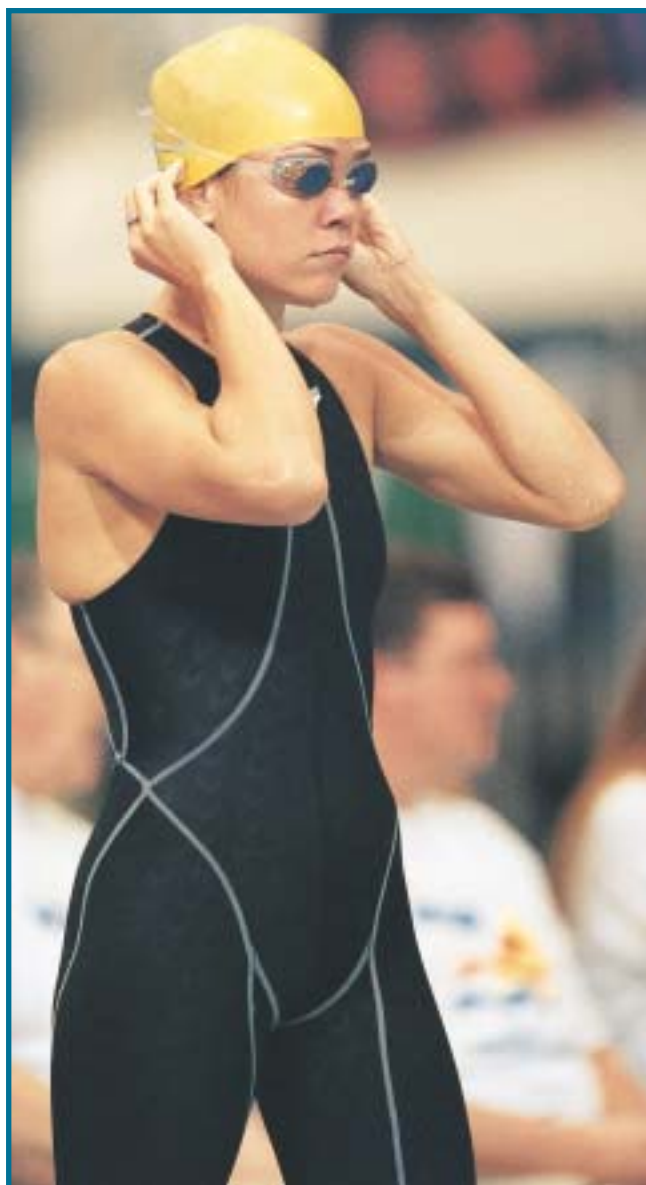


Photo by Peter H. Bick

Busch believes that athletes who have previously swum fast in bodysuits become psychologically dependent on them.

Olympian Mark Foster made news when he cut the sleeves off a “full body” suit after his own sleeveless suit was stolen.

The suits come in all different style combinations, ranging from complete arm and leg coverage to full-length tights with no upper body coverage, shorts-like “jammers” or sleeveless suits with long or short legs. And they aren’t cheap—usually running at least \$100.

Just Like Shaving

If one wishes, the suits can also be used early in the season to replicate the effect of shaving *without actually shaving*.

Normally Busch’s swimmers, who finished eighth and ninth in the men’s and women’s NCAA Championships in 2003, only wear them when they are tapered. But they wore the bodysuits at an early-season meet a year ago last winter



Photo by Budd Symes

The Bodysuit Helped!

Lyndon Ferns, 20, a South African native who swims for the University of Arizona, blazed to personal best times and victories in the 50 and 100 free at the Texas Invitational in Austin in December. He says his armless bodysuit played a crucial role.

The meet featured short course yards in the morning and long course

meters in finals. Ferns went a 19.22 for the 50 yard free in prelims and a 22.32 LCM to win in finals—a full half-second improvement from his previous best time.

In the 100 meter free, Ferns swam 48.99—also more than a half-second improvement.

Here’s what he had to say after the meet:

Swimming Technique: So you think the bodysuit played a big role in your success?

Lyndon Ferns: It definitely makes a big difference.

ST: Do you always wear the armless suit?

Ferns: It depends which suit I wear. With one, I’ll wear the full body; with



Lyndon Ferns

another, I prefer no arms. It definitely makes a difference. It’s kind of a layer of skin. It’s really fast.

ST: When did you start wearing the bodysuits?

Ferns: I started wearing the full body suit at NAAs in March. Before that, I wore the armless suit for about two years. And before that, I was just

wearing a brief or a jammer.

ST: Why do you think it makes so much difference?

Ferns: I think it makes you more streamlined with more flotation. It gives you that little edge on the streamline and makes you float a little more.

ST: Would you say everyone is wearing the bodysuits now?

Ferns: I think if you look at any big meet, at least six of the eight guys in finals are wearing the suit.

ST: How did you feel about your performance at the Texas Invite overall?

Ferns: I was amazed and shocked. I didn’t expect to be that fast. I didn’t fully rest for it, so it was kind of shocking to see what I did.

If one wishes, the bodysuits can also be used early in the season to replicate the effect of shaving *without actually shaving*.

without shaving, and the results were impressive.

“We went to a meet in December 2002 where we normally shave, but this time we didn’t. We put some (body)suits on, and we swam a lot faster than if we just wore briefs (workout-type suits) without shaving,” he said.

However, for a championship meet, Busch says you would be crazy not to shave as well as don the suit.

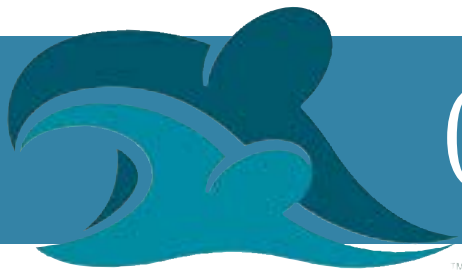
“Now, most athletes feel like they can’t perform their best unless they’re in a certain type of suit,” he said. “I think the athletes who have previously swum fast in them are psychologically dependent on them now. That’s not a problem as long as there are plenty of suits around.”

Though Busch thinks it’s sort of a shame that the suits are having so much effect on performances, he knows they’re not going away any time soon.

“I don’t see how you’ll ever put it back now,” he said. “Like anything else, someone sees it, wants to try it, and if they believe it will make them better, that’s it—it’s over.”

That is, until the next new suit comes along!

Kari Lydersen is a contributing editor of Swimming World and writes for the Washington Post.



One Banana, Two Banana,

NATIONAL SWIM SCHOOL ASSOCIATION

www.NationalSwimSchools.com

By Jon Foss

Foss Swim Schools is America's largest private swim school. Our instructors strive to teach the power phase of swimming to even the youngest age grouper—both at our schools and with our competitive swimming teams. We feel that the drill discussed in this article is the best way to teach any swimmer the perfect freestyle.

It improves all six points of freestyle:

- Six-beat kick
- Deep reach with shoulders
- Proper hand position before catch
- Hips turning/momentum
- Proper head position
- When and where to breathe

Ninety-five percent of the kids we see doing freestyle breathe incorrectly by turning the head to the left during a right arm stroke—and vice versa. This happens because of the disproportionately large heads and small hands of younger swimmers.

At least 75 percent of USS swimmers that we observe continue to turn their neck for a breath instead of pushing with the arm on the side.

At our schools, we start kids as young as 5 with what we call, "One Banana, Two Banana, Push and Breathe" (see accompanying photos).

We value learning this skill far more than learning freestyle. It takes most swimmers three to four months to perfect this skill.

A Child's First Mistake

Almost all swimmers breathe the wrong way. Imagine a young swimmer who is struggling across the pool for the first time. As he pushes with his right arm, he rises up out of the water.

The easiest possible direction to breathe is to the left, with a little neck turn. However, this is wrong. Frequently, the head is lifted and the hips drop. The result: minimal progress.

When breathing correctly in freestyle, the body should turn, and the neck should not move independently of the body. The right arm stroke should yield a breath to the right with the right arm still pushing while bent at a 90-degree angle.

Take a look at the "One Banana, Two Banana, Push and Breathe" drill. The photos show the correct way of doing the drill, compared to the wrong way.

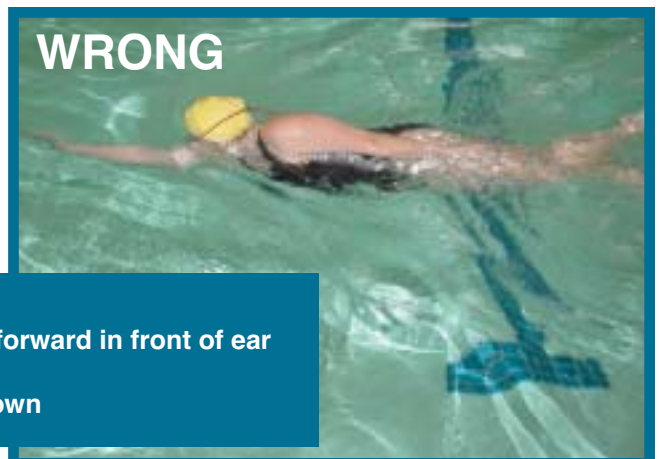
With this drill, swimmers breathe after every push phase.

This is one of 15 different freestyle exercises that we use in our swim schools and one of nine used by our competitive swimming teams. The end result is a slow, yet powerful stroke that has a definite power phase with each arm.

A mistake in any of the phases will be very evident. We recommend that beginners and all children 8 and under use short fins to perform this stroke. Paddles can be worn, but we recommend using only one paddle at a time.

If you would like to see a movie of this drill, visit the www.aquajets.us website.

Jon Foss is the general manager of Foss Swim Schools. He and his wife, Susan, are the co-founders. Since 1991, their competitive swimming teams have won 10 Minnesota state championships, and their swimmers have set six national age group records as well as one American record.



ONE BANANA

- All five fingers pointing forward in front of ear
- Armpit deep
- Goggle straps up and down

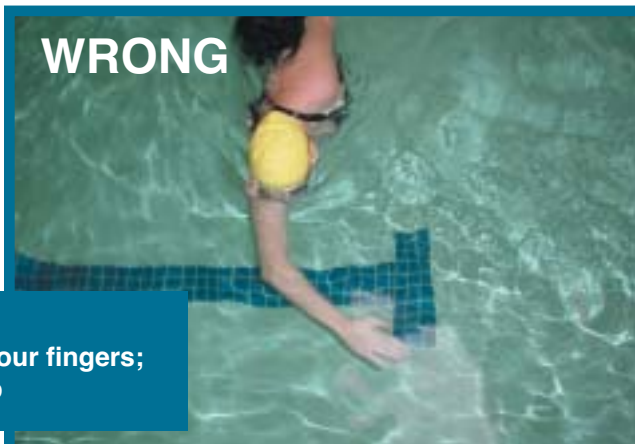
Push and Breathe



RIGHT

TWO BANANA

- A flare of the four fingers; elbow points up



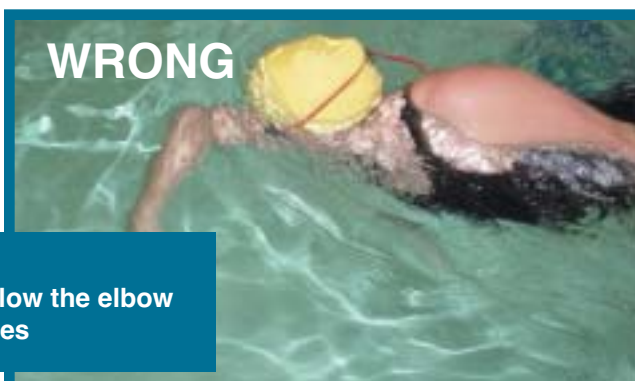
WRONG



RIGHT

PUSH

- The wedge is below the elbow
- Bent at 90 degrees



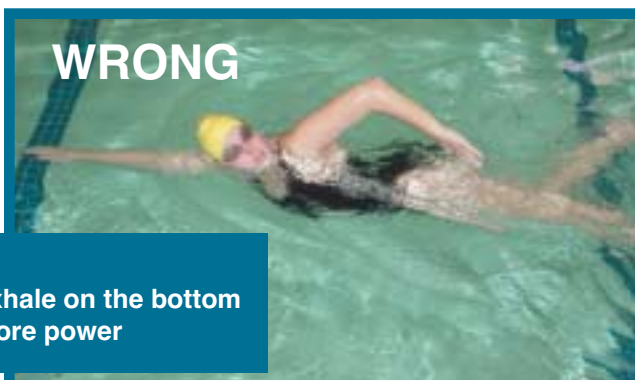
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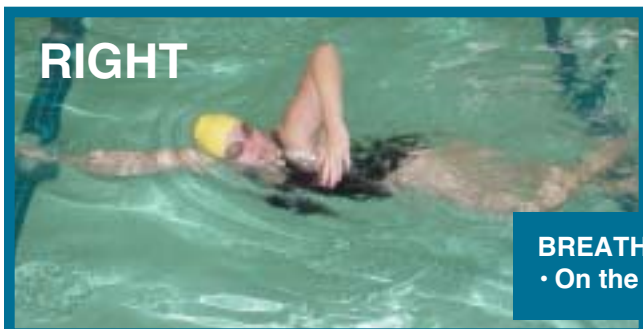
RIGHT

BREATHE

- Like weightlifting, exhale on the bottom of the stroke to get more power



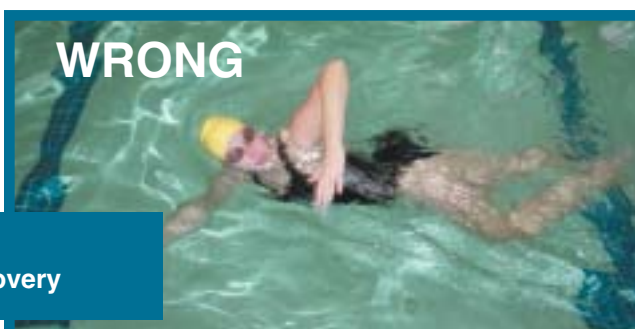
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RIGHT

BREATHING

- On the recovery



WRONG



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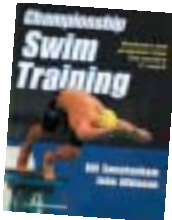
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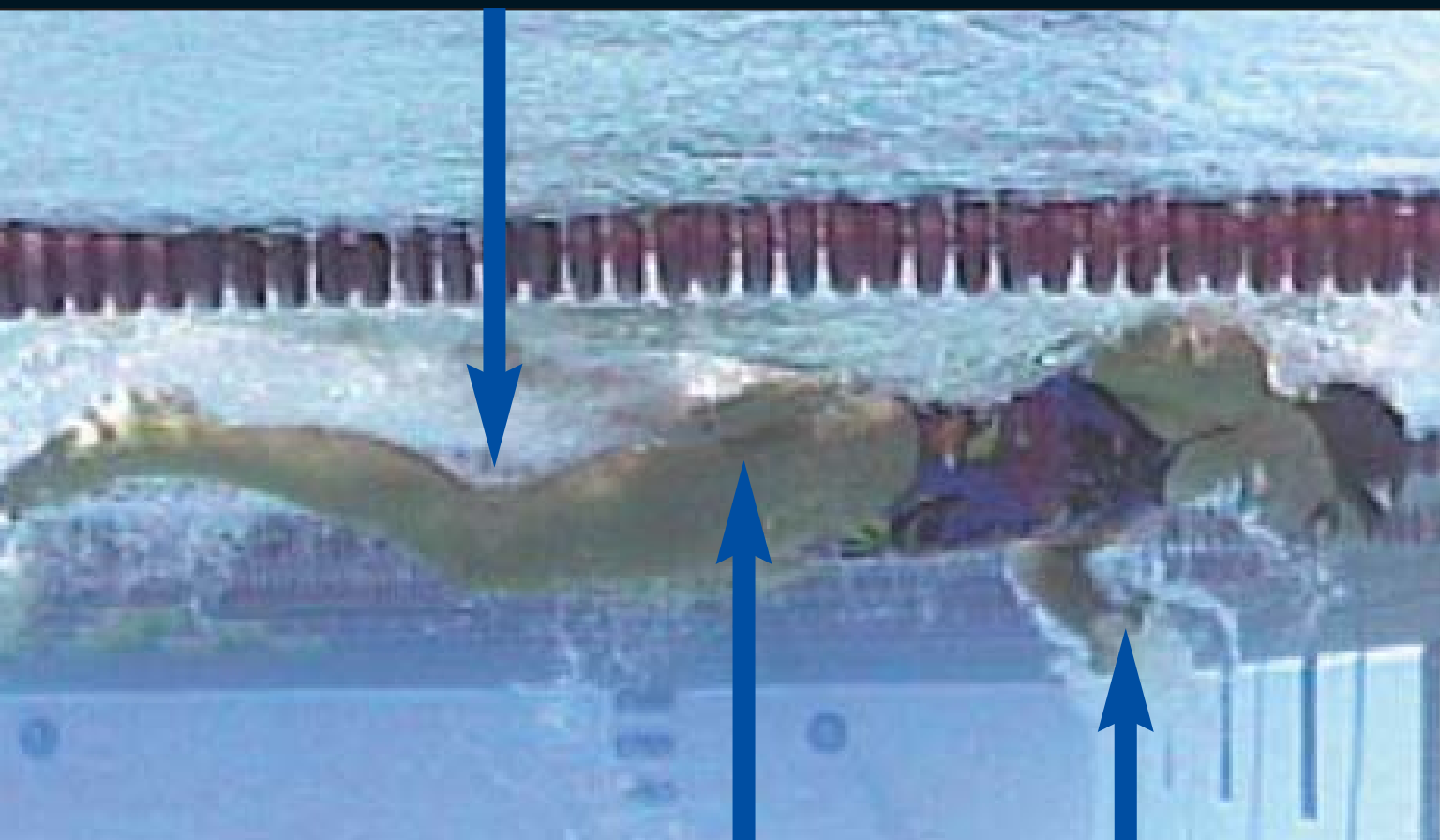
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Starting the Flip Turn

Demonstrated by Lindsay Benko
Photo by Kevin Milak

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